Penetrating keratoplasty (PKP) -- better known as the “corneal transplant” -- involves a corneal graft from a donor replacing the host cornea.\(^1\) Associated with higher risks than superficial treatments such as PTK, PKP is reserved for deeper stromal corneal dystrophies that have resulted in significant reduction in vision, most often from the development of corneal opacities. Despite the introduction of a clear corneal graft, sometimes the donor cornea can develop a recurrence of the dystrophy.

A study in 2002 assessed the rate of recurrence of stromal dystrophies in corneal grafts.\(^2\) This retrospective study reviewed Wills Eye Hospital records from 1984 to 2001 and identified all patients with stromal dystrophies who underwent penetrating keratoplasties. Recurrence was defined as any clinical findings compatible with recurrence of the disease in the graft button. Clinically significant recurrence was defined as occurring in the visual axis causing decreased visual acuity (loss of two lines or more, or worse than 20/40) or causing recurrent erosion symptoms.\(^2,3\)

The study population consisted of 35 eyes with lattice dystrophy, 17 eyes with corneal dystrophy of Bowman’s membrane (CDB), 14 eyes with macular dystrophy, 7 eyes with granular dystrophy, and 4 eyes diagnosed with Schnyder’s crystalline dystrophy.\(^2,3\) The median time to simple recurrence for the first eye transplanted of each patient was 8.4 years for lattice and 2.0 years for CDB.

In conclusion, the corneal dystrophies studied can be successfully treated with penetrating keratoplasty, but some degree of recurrence of the original disease in the graft can be expected over time. Dystrophy of the Bowman’s membrane and granular dystrophy are likely to recur earlier than other stromal dystrophies.\(^3\) So while PKP can be an excellent (and sometimes the only) surgical option, it is important to remember that its benefit may not last forever.

References: